



(D)

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<120> Methods Of Screening For Compounds That Modulate the LSR-Leptin Interaction and Their Use in the Prevention and Treatment of Obesity-Related Diseases

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<141> 2000-09-22

<150> 60/155,506  
<151> 1999-09-22

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Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser	
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ctc cac gag gac tgg cga tct cg <sup>g</sup> cct tcc cg <sup>g</sup> ggc cct gcc ctc	1459
Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu	
440 445 450	
acc ccg atc cg <sup>g</sup> gat gag gag tgg ggt ggc cac tcc ccc cg <sup>g</sup> agt ccc	1507
Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro	
455 460 465	
agg gga tgg gac cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg	1555
Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly Trp	
470 475 480	
cgg gcc agg cg <sup>g</sup> ccc cg <sup>g</sup> gcc cgc tcc gtg gac gcc ctg gac gac ctc	1603
Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu	
485 490 495 500	
acc ccg ccg agc acc gcc gag tca ggg agc agg tct ccc acg agt aat	1651
Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn	
505 510 515	
ggt ggg aga agc cg <sup>g</sup> gcc tac atg ccc cg <sup>g</sup> agc cgc agc cg <sup>g</sup> gac	1699
Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp	
520 525 530	
gac ctc tat gac caa gac gac tcg agg gac ttc cca cgc tcc cg <sup>g</sup> gac	1747
Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp	
535 540 545	
ccc cac tac gac gac ttc agg tct cg <sup>g</sup> gag cg <sup>g</sup> cct cct gcc gac ccc	1795
Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro	
550 555 560	
agg tcc cac cac cac cg <sup>g</sup> acc cg <sup>g</sup> gac cct cg <sup>g</sup> gac aac ggc tcc agg	1843
Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg	
565 570 575 580	
tcc ggg gac ctc ccc tat gat ggg cg <sup>g</sup> cta ctg gag gag gct gtg agg	1891
Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg	
585 590 595	
aag aag ggg tcg gag gag agg agg aga ccc cac aag gag gag gag gaa	1939
Lys Lys Gly Ser Glu Glu Arg Arg Pro His Lys Glu Glu Glu Glu	
600 605 610	
gag gcc tac tac ccg ccc gcg cc <sup>g</sup> ccc cc <sup>g</sup> tac tcg gag acc gac tcg	1987
Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser	
615 620 625	
cag gcg tcc cga gag cg <sup>g</sup> agg ctc aag aag aac ttg gcc ctg agt cg <sup>g</sup>	2035
Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg	
630 635 640	
gaa agt tta gtc gtc tga tctgacgttt tctacgttagc ttttgkattt	2083
Glu Ser Leu Val Val *	
645 650	
tttttttaa tt <sup>g</sup> aggaa cactgatgaa gccctgccat acccctcccc agtctaataa	2143
aacgtataat cacaa	2158

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<223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>

<221> VARIANT

<222> 420

<223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>

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<223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

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Gly Arg Ser Val His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu  
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Arg Tyr Phe Gly Arg Asp Ala Arg Ala Arg Arg Ala Gln Thr Ala Ala  
35 40 45

Met Ala Leu Leu Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro  
50 55 60

Ala Ala Ala Gly Arg Asp Ala Val Val Phe Val Trp Leu Leu Ser  
65 70 75 80

Thr Trp Cys Thr Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn  
85 90 95

Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr  
100 105 110

Tyr Gln Met Thr Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr  
115 120 125

Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser  
130 135 140

Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr  
145 150 155 160

Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val  
165 170 175

Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly  
180 185 190

Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr  
195 200 205

Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln  
210 215 220

Asp Leu Gln Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Gly  
225 230 235 240

Arg Thr Ser Gly Val Ala Glu Leu Leu Pro Gly Phe Gln Ala Gly Pro  
245 250 255

Ile Glu Asp Trp Leu Phe Val Val Val Cys Leu Ala Ala Phe Leu  
260 265 270

Ile Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr  
275 280 285

Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys  
290 295 300

Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro  
305 310 315 320

Ser Ile Tyr Ala Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr  
325 330 335

Pro Pro Pro Pro Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr  
340 345 350

Pro Gly Gly Tyr Pro Gly Asp Val Asp Arg Ser Ser Ser Ala Gly Gly  
355 360 365

Gln Gly Ser Tyr Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala  
     370                         375                         380  
 Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp  
     385                         390                         395                         400  
 Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp  
     405                         410                         415  
 Pro Ser Arg Pro Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser  
     420                         425                         430  
 Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg  
     435                         440                         445  
 Gly Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser  
     450                         455                         460  
 Pro Arg Ser Pro Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala  
     465                         470                         475                         480  
 Gly Gly Gly Trp Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala  
     485                         490                         495  
 Leu Asp Asp Leu Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser  
     500                         505                         510  
 Pro Thr Ser Asn Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser  
     515                         520                         525  
 Arg Ser Arg Asp Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro  
     530                         535                         540  
 Arg Ser Arg Asp Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro  
     545                         550                         555                         560  
 Pro Ala Asp Pro Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp  
     565                         570                         575  
 Asn Gly Ser Arg Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu  
     580                         585                         590  
 Glu Ala Val Arg Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys  
     595                         600                         605  
 Glu Glu Glu Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser  
     610                         615                         620  
 Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu  
     625                         630                         635                         640  
 Ala Leu Ser Arg Glu Ser Leu Val Val  
     645

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 <223> 9-3-324 : polymorphic base C or T

<220>  
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 <223> 9-6-187 : polymorphic base C or T

<220>  
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 <223> 9-7-325 : polymorphic base A or G

<220>  
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<222> 1305  
 <223> 9-9-246 : polymorphic base G or C

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 <223> LSRX9f14-BM : polymorphic base T or G

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atgccctttg	tccacgtcgt	ttacgctcat	taaaaacttcc	aga atg caa cag gac		115
				Met Gln Gln Asp		
				1		
gga ctt gga gta ggg aca agg aac gga agt ggg aag ggg agg agc gtg						163
Gly Leu Gly Val Gly Thr Arg Asn Gly Ser Gly Lys Gly Arg Ser Val						
5 10 15 20						
cac ccc tcc tgg cct tgg tgc gcg ccg cgc ccc cta agg tac ttt gga						211
His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu Arg Tyr Phe Gly						
25 30 35						
agg gac gcg cggttcc aga cgc gcc cag acg gcc gcg atg gcg ctg ttg						259
Arg Asp Ala Arg Ala Arg Ala Gln Thr Ala Ala Met Ala Leu Leu						
40 45 50						
gcc ggc ggg ctc tcc aga ggg ctg ggc tcc cac ccg gcc gca ggc						307
Ala Gly Leu Ser Arg Gly Leu Gly Ser His Pro Ala Ala Ala Gly						
55 60 65						
cgg gac gcg gtc gtc ttc gtg tgg ctt ctg ctt agc acc tgg tgc aca						355
Arg Asp Ala Val Val Phe Val Trp Leu Leu Ser Thr Trp Cys Thr						
70 75 80						
gct cct gcc agg gcc atc cag gtg acc gtg tcc aac ccc tac cac gtg						403
Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn Pro Tyr His Val						
85 90 95 100						
gtg atc ctc ttc cag cct gtg acc ctg ccc tgt acc tac cag atg acc						451
Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Thr						
105 110 115						
tcg acc ccc acg caa ccc atc gtc atc tgg aag tac aag tct ttc tgc						499
Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys						
120 125 130						
cgg gac cgc atc gcc gat gcc ttc tcc ccg gcc agc gtc gac aac cag						547
Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln						
135 140 145						
ctc aat gcc cag ctg gca gcc ggg aac cca ggc tac aac ccc tac gty						595
Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val						
150 155 160						
gag tgc cag gac agc gtg cgc acc gtc agg gtc gtg gcc acc aag cag						643
Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Ala Thr Lys Gln						
165 170 175 180						
ggc aac gct gtg acc ctg gga gat tac tac cag ggc ccg agg att acc						691
Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr						
185 190 195						
atc acc gga aat gct gac ctg acc ttt gac cag acg gcg tgg ggg gac						739
Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr Ala Trp Gly Asp						
200 205 210						
agt ggt gtg tat tac tgc tcc gtg gtc tca gcc cag gac ctc cag ggg						787
Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Gln Gly						

215	220	225	
aac aat gag gcc tac gca gag ctc atc gtc ctt gac tgg ctc ttc gtg			835
Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp Trp Leu Phe Val			
230	235	240	
gtt gtg gta tgc ctg gct gcc ttc ctc atc ttc ctc ctc ctg ggc aty			883
Val Val Val Cys Leu Ala Ala Phe Leu Ile Phe Leu Leu Leu Gly Ile			
245	250	255	260
tgc tgg tgc cag tgc tgc ccg cac act tgc tgc tac gtc agg tgc			931
Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val Arg Cys			
265	270	275	
ccc tgc tgc cca gac aag tgc tgc ccc gag gcc ctg tat gcc gcc			979
Pro Cys Cys Pro Asp Lys Cys Cys Pro Glu Ala Leu Tyr Ala Ala			
280	285	290	
ggc aaa gca gcc acc tca ggt gtt ccc agc att tat gcc ccc agc acc			1027
Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Thr			
295	300	305	
tat gcc cac ctg tct ccc gcc aag acc cca ccc cca cca gct atg att			1075
Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Ala Met Ile			
310	315	320	
ccc atg ggc cct gcc tac aac ggg tac cct gga gga tac cct gga gac			1123
Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr Pro Gly Asp			
325	330	335	340
gtt gac agg art agc tca gct ggt ggc caa ggc tcc tat gta ccc ctg			1171
Val Asp Arg Xaa Ser Ser Ala Gly Gly Gln Gly Ser Tyr Val Pro Leu			
345	350	355	
ctt cggt gac acg gac agc agt gtg gcc tct gaa gtc cgc agt ggc tac			1219
Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg Ser Gly Tyr			
360	365	370	
agg att cag gcc agc cag cag gac tcc atg cgg gtc ctg tac tac			1267
Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr			
375	380	385	
atg gag aag gag ctg gcc aac ttc gac cct tct cga cst ggc ccc ccc			1315
Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa Gly Pro Pro			
390	395	400	
agt ggc cgt gtg gag cgg gcc atg agt gaa gtc acc tcc ctc cac gag			1363
Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu			
405	410	415	420
gac gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc acc ccg atc			1411
Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu Thr Pro Ile			
425	430	435	
cgg gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc agg gga tgg			1459
Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro Arg Gly Trp			
440	445	450	
gac cag gag ccc gcc agg gag cag gca ggg ggg ggc tgg cgg gcc agg			1507
Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Trp Arg Ala Arg			
455	460	465	
cgg ccc cgg gcc cgc tcc gtg gac gcc ctg gac gac ctc acc ccg ccg			1555
Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu Thr Pro Pro			
470	475	480	
agc acc gcc gag tca ggg agc agg tct ccc acg agt aat ggt ggg aga			1603
Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn Gly Gly Arg			
485	490	495	500
agc cgg gcc tac atg ccc ccg cgg agc cgc agc cgg gac gac ctc tat			1651
Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr			
505	510	515	
gac caa gac gac tcg agg gac ttc cca cgc tcc cgg gac ccc cac tac			1699
Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp Pro His Tyr			
520	525	530	
gac gac ttc agg tct cgg gag cgc cct cct gcc gac ccc agg tcc cac			1747

Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro Arg Ser His		
535 540 545		
cac cac cgt acc cg <sup>g</sup> gac cct cg <sup>g</sup> gac aac gg <sup>c</sup> tcc agg tcc ggg gac		1795
His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg Ser Gly Asp		
550 555 560		
ctc ccc tat gat ggg cg <sup>g</sup> cta ctg gag gag gct gtg agg aag aag ggg		1843
Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg Lys Lys Gly		
565 570 575 580		
tcg gag gag agg aga cc <sup>c</sup> cac aag gag gag gag gaa gag gg <sup>c</sup> tac		1891
Ser Glu Glu Arg Arg Pro His Lys Glu Glu Glu Glu Ala Tyr		
585 590 595		
tac ccg ccc gc <sup>g</sup> cc <sup>g</sup> tac tcg gag acc gac tcg cag gc <sup>g</sup> tcc		1939
Tyr Pro Pro Ala Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser		
600 605 610		
cga gag cg <sup>c</sup> agg ctc aag aag aac ttg gg <sup>c</sup> ctg agt cg <sup>g</sup> gaa agt tta		1987
Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu		
615 620 625		
gtc gtc tga tctgacgttt tctacgttagc ttttgkattt ttttttttaa		2036
Val Val *		
630		
tttgaaggaa cactgatgaa gccctgccat acccctccccg agtctaataa aacgtataat		2096
cacaa		2101
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<223> 9-7-325 : polymorphic amino acid Ser or Asn		
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Gly Arg Ser Val His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu		
20 25 30		
Arg Tyr Phe Gly Arg Asp Ala Arg Ala Arg Arg Ala Gln Thr Ala Ala		
35 40 45		
Met Ala Leu Leu Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro		
50 55 60		
Ala Ala Ala Gly Arg Asp Ala Val Val Phe Val Trp Leu Leu Ser		
65 70 75 80		
Thr Trp Cys Thr Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn		
85 90 95		
Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr		
100 105 110		
Tyr Gln Met Thr Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr		

115	120	125
Lys Ser Phe Cys Arg Asp Arg	Ile Ala Asp Ala Phe Ser Pro Ala Ser	
130	135	140
Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr		
145	150	155
Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val		160
165	170	175
Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly		
180	185	190
Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr		
195	200	205
Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln		
210	215	220
Asp Leu Gln Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp		
225	230	235
Trp Leu Phe Val Val Val Cys Leu Ala Ala Phe Leu Ile Phe Leu		
245	250	255
Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys		
260	265	270
Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Pro Glu Ala		
275	280	285
Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr		
290	295	300
Ala Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro		
305	310	315
Pro Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly		
325	330	335
Tyr Pro Gly Asp Val Asp Arg Ser Ser Ala Gly Gly Gln Gly Ser		
340	345	350
Tyr Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val		
355	360	365
Arg Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg		
370	375	380
Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg		
385	390	395
Pro Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr		
405	410	415
Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala		
420	425	430
Leu Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser		
435	440	445
Pro Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly		
450	455	460
Trp Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp		
465	470	475
Leu Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser		
485	490	495
Asn Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg		
500	505	510
Asp Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg		
515	520	525
Asp Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp		
530	535	540
Pro Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser		
545	550	555
Arg Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val		
565	570	575
Arg Lys Lys Gly Ser Glu Glu Arg Arg Pro His Lys Glu Glu Glu		
580	585	590

Glu Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp  
 595 600 605  
 Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser  
 610 615 620  
 Arg Glu Ser Leu Val Val  
 625 630

<210> 6  
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 <223> 9-3-324 : polymorphic base C or T

<220>  
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<220>  
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<220>  
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 Met Gln Gln Asp  
 115  
 1  
 gga ctt gga gta ggg aca agg aac gga agt ggg aag ggg agg agg agc gtg 163  
 Gly Leu Gly Val Gly Thr Arg Asn Gly Ser Gly Lys Gly Arg Ser Val  
 5 10 15 20  
 cac ccc tcc tgg cct tgg tgc gcg ccg cgc ccc cta agg tac ttt gga 211  
 His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu Arg Tyr Phe Gly  
 25 30 35  
 agg gac gcg cgg gcc aga cgc gcc cag acg gcc gcg atg gcg ctg ttg 259  
 Arg Asp Ala Arg Ala Arg Ala Gln Thr Ala Ala Met Ala Leu Leu  
 40 45 50  
 307  
 gcc ggc ggg ctc tcc aga ggg ctg ggc tcc cac ccg gcc gca ggc  
 Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro Ala Ala Gly  
 55 60 65  
 355  
 cg gac gcg gtc gtc ttc gtg tgg ctt ctg ctt acg acc tgg tgc aca  
 Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser Thr Trp Cys Thr  
 70 75 80  
 403  
 gct cct gcc agg gcc atc cag gtg acc gtg tcc aac ccc tac cac gtg  
 Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn Pro Tyr His Val

85	90	95	100	
gtg atc ctc ttc cag cct gtg acc ctg ccc tgt acc tac cag atg acc				451
Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Thr				
105	110	115		
tcg acc ccc acg caa ccc atc gtc atc tgg aag tac aag tct ttc tgc				499
Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys				
120	125	130		
cgg gac cgc atc gcc gat gcc ttc tcc ccg gcc agc gtc gac aac cag				547
Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln				
135	140	145		
ctc aat gcc cag ctg gca gcc ggg aac cca ggc tac aac ccc tac gty				595
Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val				
150	155	160		
gag tgc cag gac agc gtg cgc acc gtc agg gtc gtg gcc acc aag cag				643
Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln				
165	170	175	180	
ggc aac gct gtg acc ctg gga gat tac tac cag ggc cgg agg att acc				691
Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr				
185	190	195		
atc acc gga aat gct gac ctg acc ttt gac cag acg gcg tgg ggg gac				739
Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr Ala Trp Gly Asp				
200	205	210		
agt ggt gtg tat tac tgc tcc gtg gtc tca gcc cag gac ctc cag ggg				787
Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Gln Gly				
215	220	225		
aac aat gag gcc tac gca gag ctc atc gtc ctt gtg tat gcc gcc ggc				835
Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Val Tyr Ala Ala Gly				
230	235	240		
aaa gca gcc acc tca ggt gtt ccc agc att tat gcc ccc agc acc tat				883
Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Thr Tyr				
245	250	255	260	
gcc cac ctg tct ccc gcc aag acc cca ccc cca cca gct atg att ccc				931
Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Ala Met Ile Pro				
265	270	275		
atg ggc cct gcc tac aac ggg tac cct gga gga tac cct gga gac gtt				979
Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr Pro Gly Asp Val				
280	285	290		
gac agg art agc tca gct ggt ggc caa ggc tcc tat gta ccc ctg ctt				1027
Asp Arg Xaa Ser Ser Ala Gly Gly Gln Gly Ser Tyr Val Pro Leu Leu				
295	300	305		
cgg gac acg gac agc agt gtg gcc tct gaa gtc cgc agt ggc tac agg				1075
Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg Ser Gly Tyr Arg				
310	315	320		
att cag gcc agc cag cag gac tcc atg cggt gtc ctg tac tac atg				1123
Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met				
325	330	335	340	
gag aag gag ctg gcc aac ttc gac cct tct cga cst ggc ccc ccc agt				1171
Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Xaa Gly Pro Pro Ser				
345	350	355		
ggc cgt gtg gag cggt gcc atg agt gaa gtc acc tcc ctc cac gag gag				1219
Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp				
360	365	370		
gac tgg cga tct cgg cct tcc cgg ggc cct gcc ctc acc ccg atc cgg				1267
Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu Thr Pro Ile Arg				
375	380	385		
gat gag gag tgg ggt ggc cac tcc ccc cgg agt ccc agg gga tgg gac				1315
Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro Arg Gly Trp Asp				
390	395	400		
cag gag ccc gcc agg gag cag gca ggc ggg ggc tgg cgg gcc agg cgg				1363

Gln	Glu	Pro	Ala	Arg	Glu	Gln	Ala	Gly	Gly	Gly	Trp	Arg	Ala	Arg	Arg	
405					410				415			420				
ccc	cgg	gcc	cgc	tcc	gtg	gac	gcc	ctg	gac	gac	ctc	acc	ccg	ccg	agc	1411
Pro	Arg	Ala	Arg	Ser	Val	Asp	Ala	Leu	Asp	Asp	Leu	Thr	Pro	Pro	Ser	
					425				430			435				
acc	gcc	gag	tca	ggg	agc	agg	tct	ccc	acg	agt	aat	ggt	ggg	aga	agc	1459
Thr	Ala	Glu	Ser	Gly	Ser	Arg	Ser	Pro	Thr	Ser	Asn	Gly	Gly	Arg	Ser	
					440				445			450				
cgg	gcc	tac	atg	ccc	cgc	cgg	agc	cgc	acg	cgg	gac	gac	ctc	tat	gac	1507
Arg	Ala	Tyr	Met	Pro	Pro	Arg	Ser	Arg	Ser	Arg	Asp	Asp	Leu	Tyr	Asp	
					455				460			465				
caa	gac	gac	tcg	agg	gac	ttc	cca	cgc	tcc	cg	gac	ccc	cac	tac	gac	1555
Gln	Asp	Asp	Ser	Arg	Asp	Phe	Pro	Arg	Ser	Arg	Asp	Pro	His	Tyr	Asp	
					470				475			480				
gac	ttc	agg	tct	cg	gag	cgc	cct	cct	gcc	gac	ccc	agg	tcc	cac	cac	1603
Asp	Phe	Arg	Ser	Arg	Glu	Arg	Pro	Pro	Ala	Asp	Pro	Arg	Ser	His	His	
					485				490			495			500	
cac	cgt	acc	cgg	gac	cct	cgg	gac	aac	ggc	tcc	agg	tcc	ggg	gac	ctc	1651
His	Arg	Thr	Arg	Asp	Pro	Arg	Asp	Asn	Gly	Ser	Arg	Ser	Gly	Asp	Leu	
					505				510			515				
ccc	tat	gat	ggg	cgg	cta	ctg	gag	gag	gct	gtg	agg	aag	aag	ggg	tcg	1699
Pro	Tyr	Asp	Gly	Arg	Leu	Leu	Glu	Glu	Ala	Val	Arg	Lys	Lys	Gly	Ser	
					520				525			530				
gag	gag	agg	agg	aga	ccc	cac	aag	gag	gag	gag	gaa	gag	gcc	tac	tac	1747
Glu	Glu	Arg	Arg	Pro	His	Lys	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Ala	Tyr	
					535				540			545				
ccg	ccc	gcg	ccc	ccg	tac	tcg	gag	acc	gac	tcg	cag	gcg	tcc	cga		1795
Pro	Pro	Ala	Pro	Pro	Tyr	Ser	Glu	Thr	Asp	Ser	Gln	Ala	Ser	Arg		
					550				555			560				
gag	cgc	agg	ctc	aag	aag	ttt	gcc	ctg	agt	cg	gaa	agt	tta	gtc		1843
Glu	Arg	Arg	Leu	Lys	Lys	Asn	Leu	Ala	Leu	Ser	Arg	Glu	Ser	Leu	Val	
					565				570			575			580	
gtc	tga	tct	tgacgttt	tct	acgttagc	tcc	tgtt	gkattt	ttttt	ttttttaa	ttt	gaaggaa				1899
Val	*															
cactgatgaa	gccctgccc	at	acc	ccccc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	1954

<210> 7  
<211> 581  
<212> PRT  
<213> Homo sapiens

<220>  
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<223> 9-7-325 : polymorphic amino acid Ser or Asn

<220>  
<221> VARIANT  
<222> 352  
<223> 9-9-246 : polymorphic amino acid Pro or Arg

<220>  
<221> VARIANT  
<222> 451  
<223> LSRX9f13-BM : polymorphic amino acid deletion of Arg

<400> 7  
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1 5 10 15

Gly Arg Ser Val His Pro Ser Trp Pro Trp Cys Ala Pro Arg Pro Leu  
       20                 25                 30  
 Arg Tyr Phe Gly Arg Asp Ala Arg Ala Arg Ala Gln Thr Ala Ala  
       35                 40                 45  
 Met Ala Leu Leu Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro  
       50                 55                 60  
 Ala Ala Ala Gly Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser  
       65                 70                 75                 80  
 Thr Trp Cys Thr Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn  
       85                 90                 95  
 Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr  
       100                105                110  
 Tyr Gln Met Thr Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr  
       115                120                125  
 Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser  
       130                135                140  
 Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr  
       145                150                155                160  
 Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val  
       165                170                175  
 Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly  
       180                185                190  
 Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr  
       195                200                205  
 Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln  
       210                215                220  
 Asp Leu Gln Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Val  
       225                230                235                240  
 Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala  
       245                250                255  
 Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro  
       260                265                270  
 Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly Tyr  
       275                280                285  
 Pro Gly Asp Val Asp Arg Ser Ser Ser Ala Gly Gly Gln Gly Ser Tyr  
       290                295                300  
 Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val Arg  
       305                310                315                320  
 Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg Val  
       325                330                335  
 Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro  
       340                345                350  
 Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser  
       355                360                365  
 Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala Leu  
       370                375                380  
 Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser Pro  
       385                390                395                400  
 Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Trp  
       405                410                415  
 Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Leu  
       420                425                430  
 Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser Asn  
       435                440                445  
 Gly Gly Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser Arg Asp  
       450                455                460  
 Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser Arg Asp  
       465                470                475                480  
 Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala Asp Pro

485	490	495
Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly Ser Arg		
500	505	510
Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala Val Arg		
515	520	525
Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu Glu Glu		
530	535	540
Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser		
545	550	555
Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg		
565	570	575
Glu Ser Leu Val Val		
580		

<210> 8

<211> 2097

<212> DNA

<213> Rattus norvegicus

<400> 8

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tttatgggtt	agaactcctc	cagagcgggg	aaaaaaggac	tttggaaatagg	ggcgggacgg	120	
agcacgcacc	cttctccgcc	tttggttctcg	ccgcgcgggg	tactctcgaa	atacttggga	180	
ggggacgcgc	gggcaccgtc	gctgcttagac	ggccgcgc	atg gcg	ccg gcg gcc ggc	235	
				Met Ala	Pro Ala Ala Gly		
				1	5		
gcg tgc	tgt gct	ggg gcg	cct gac	tcc cac	cca gct acc	gtg gtc ttc gtg	283
Ala Cys	Ala Gly	Ala Pro	Asp Ser	His Pro	Ala Thr Val Val	Phe Val	
10	15	20					
tgt ctc	ttt ctc	atc att	ttc tgc	cca gac	cct gcc agt	gcc atc cag	331
Cys Leu	Phe Leu	Ile Ile	Phe Cys	Pro Asp	Pro Ala Ser	Ala Ile Gln	
25	30	35					
gtg act	gtg tct	gac ccc tac	cac gta	gtg atc	ctg ttc cag	cca gtg	379
Val Thr	Val Ser	Asp Pro	Tyr His	Val Val	Ile Leu Phe	Gln Pro Val	
40	45	50					
acc ctg	ccc tgc	acc tat	cag agc	aac act	ctc aca	gtc ccc atc	427
Thr Leu	Pro Cys	Thr Tyr	Gln Met	Ser Asn	Thr Leu	Thr Val Pro Ile	
55	60	65	70				
gtg atc	tgg aag	tac aag	tca ttc	tgc cgg	gac cgt	att gcc gat	475
Val Ile	Trp Lys	Tyr Lys	Ser Phe	Cys Arg	Asp Arg	Ile Ala Asp Ala	
75	80	85					
ttc tct	cct gcc	agt gtg	gac aac	cag cta	aat gcc	cag ttg gca gct	523
Phe Ser	Pro Ala	Ser Val	Asp Asn	Gln Leu	Asn Ala	Gln Leu Ala Ala	
90	95	100					
ggc aac	ccc ggc	tac aac	ccc tat	gtg gag	tgc cag	gac agt gta cgc	571
Gly Asn	Pro Gly	Tyr Asn	Pro Tyr	Val Glu	Cys Gln	Asp Ser Val Arg	
105	110	115					
act gtc	agg gtg	gtg gcc	acc aaa	cag ggc	aat gcg	gtg acc ctg gga	619
Thr Val	Arg Val	Val Ala	Thr Lys	Gln Gly	Asn Ala	Val Thr Leu Gly	
120	125	130					
gac tac	tac caa	ggc agg	agg atc	acc ata	aca gga	aat gct gac ctg	667
Asp Tyr	Tyr Gln	Gly Arg	Ile Thr	Ile Thr	Gly Asn	Ala Asp Leu	
135	140	145	150				
acc ttc	gag cag	aca gcc	tgg gga	gac agt	gga gtg	tat tac tgc tct	715
Thr Phe	Glu Gln	Thr Ala	Trp Gly	Asp Ser	Gly Val	Tyr Tyr Cys Ser	
155	160	165					
gtg gtc	tcg gcc	caa gat	ctg gat	gga aac	aac gag	gct tac gca gag	763
Val Val	Ser Ala	Gln Asp	Leu Asp	Gly Asn	Asn Glu	Ala Tyr Ala Glu	
170	175	180					

ctc atc gtc ctt ggc agg acc tca gag gcc cct gag ctc cta cct ggt	811
Leu Ile Val Leu Gly Arg Thr Ser Glu Ala Pro Glu Leu Leu Pro Gly	
185 190 195	
ttt cg <sup>g</sup> g <sup>c</sup> g <sup>g</sup> ccc ttg gaa gat tgg ctc ttt gtg gtc gtg gtc tgc	859
Phe Arg Ala Gly Pro Leu Glu Asp Trp Leu Phe Val Val Val Val Cys	
200 205 210	
ctg g <sup>c</sup> g <sup>c</sup> a <sup>g</sup> ctc ctc ttc ctc ctg ggc atc tgc tgg tgc cag	907
Leu Ala Ser Leu Leu Phe Leu Leu Gly Ile Cys Trp Cys Gln	
215 220 225 230	
tgc tgt cct cac acc tgc tgc tat gtc cga tgt ccc tgc tgc cca	955
Cys Cys Pro His Thr Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro	
235 240 245	
gac aag tgc tgt tgc cct gag gct ctt tat gct gct ggc aaa gca gcc	1003
Asp Lys Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala	
250 255 260	
acc tca ggt gtc ccg agc atc tat gcc ccc agc atc tat acc cac ctc	1051
Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu	
265 270 275	
tca cct gcc aag acc cca cca cct ccg cct gcc atg att ccc atg ggc	1099
Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile Pro Met Gly	
280 285 290	
cct ccc tat ggg tac cct gga gac ttt gac aga cat agc tca gtt ggt	1147
Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg His Ser Ser Val Gly	
295 300 305 310	
ggc cac agc tcc caa gta ccc ctg ctg cgt gac gtg gat ggc agt gta	1195
Gly His Ser Ser Gln Val Pro Leu Leu Arg Asp Val Asp Gly Ser Val	
315 320 325	
tct tca gaa gta cga agt ggc tac agg atc cag gct aac cag caa gat	1243
Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Asp	
330 335 340	
gac tcc atg agg gtc cta tac tat atg gag aaa gag cta gcc aac ttt	1291
Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe	
345 350 355	
gac cct tcc cga cct ggc cct ccc aat ggc aga gtg gaa cgg gcc atg	1339
Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met	
360 365 370	
agt gaa gta acc tcc ctc cat gaa gat gac tgg cga tcg agg cct tcc	1387
Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser	
375 380 385 390	
agg gct cct gcc ctc acc ccc atc agg gat gag gag tgg aat cgc cac	1435
Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His	
395 400 405	
tcc cca cag agt ccc aga aca tgg gag cag gaa ccc ctt caa gaa caa	1483
Ser Pro Gln Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln	
410 415 420	
cca agg ggt tgg ggg tct gga cgc cct cgg gcc cgc tct gtg gat	1531
Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp	
425 430 435	
gct cta gat gat atc aac cgg cct ggc tcc act gaa tca gga cgg tct	1579
Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser	
440 445 450	
tct ccc cca agt agt gga cgg aga gga cgg gcc tat gca cct cca aga	1627
Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg	
455 460 465 470	
agt cgc agc cgg gat gac ctc tat gac cgg gac gat cct agg gac ttg	1675
Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu	
475 480 485	
cca cat tcc cga gat ccc cac tat tat gac gac atc agg tct aga gat	1723
Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp	

490	495	500	
cca cgt gct gac ccc aga tcc cgt cag cga tcc cga gat cct cg	cg gat		1771
Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp			
505	510	515	
gct ggc ttc agg tca agg gac cct cag tat gat ggg cga cta tta gaa			1819
Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu			
520	525	530	
gag gct tta aag aaa aag ggg tcg ggc gag aga agg agg gtt tac agg			1867
Glu Ala Leu Lys Lys Gly Ser Gly Glu Arg Arg Val Tyr Arg			
535	540	545	550
gag gaa gaa gag gaa gag gag ggc caa tac ccc cca gca cct cca cct			1915
Glu Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro Pro Pro			
555	560	565	
tac tca gag act gac tcg cag gcc tca cgg gag agg agg ctg aaa aag			1963
Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys			
570	575	580	
aat ttg gcc ctg agt cgg gaa agt tta gtc gtc tga tccacgtttt			2009
Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val *			
585	590		
gtatgttagct tttgtacttt ttttttaatt ggaatcaata ttgatgaaac ttcaaggccta			2069
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<211> 593  
<212> PRT  
<213> Rattus norvegicus

<400> 9			
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Ala Thr Val Val Phe Val Cys Leu Phe Leu Ile Ile Phe Cys Pro Asp			
20	25	30	
Pro Ala Ser Ala Ile Gln Val Thr Val Ser Asp Pro Tyr His Val Val			
35	40	45	
Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn			
50	55	60	
Thr Leu Thr Val Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg			
65	70	75	80
Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu			
85	90	95	
Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu			
100	105	110	
Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly			
115	120	125	
Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile			
130	135	140	
Thr Gly Asn Ala Asp Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser			
145	150	155	160
Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn			
165	170	175	
Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Gly Arg Thr Ser Glu Ala			
180	185	190	
Pro Glu Leu Leu Pro Gly Phe Arg Ala Gly Pro Leu Glu Asp Trp Leu			
195	200	205	
Phe Val Val Val Cys Leu Ala Ser Leu Leu Leu Phe Leu Leu Leu			
210	215	220	
Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val			
225	230	235	240
Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Pro Glu Ala Leu Tyr			

245	250	255
Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro		
260	265	270
Ser Ile Tyr Thr His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Pro		
275	280	285
Ala Met Ile Pro Met Gly Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp		
290	295	300
Arg His Ser Ser Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg		
305	310	315
Asp Val Asp Gly Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile		
325	330	335
Gln Ala Asn Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu		
340	345	350
Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly		
355	360	365
Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp		
370	375	380
Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp		
385	390	395
Glu Glu Trp Asn Arg His Ser Pro Gln Ser Pro Arg Thr Trp Glu Gln		
405	410	415
Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro		
420	425	430
Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser		
435	440	445
Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg		
450	455	460
Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro		
465	470	475
Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp		
485	490	495
Asp Ile Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg		
500	505	510
Ser Arg Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr		
515	520	525
Asp Gly Arg Leu Leu Glu Ala Leu Lys Lys Lys Gly Ser Gly Glu		
530	535	540
Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Gly Gln Tyr		
545	550	555
Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg		
565	570	575
Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu Val		
580	585	590
Val		

<210> 10  
 <211> 2040  
 <212> DNA  
 <213> Rattus norvegicus

<400> 10		
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tttatgggtt agaactcctc cagagcgggg gaaaaaggac ttgaaatagg ggcgggacgg	120	
agcacgcacc cttctccgcc ttggttctcg ccgcgcgggg tactctcgat	180	
ggggacgcgc gggcacccgtc gctgctagac ggccgcg atg gcg ccc gcg ggc	235	
Met Ala Pro Ala Ala Gly		
1	5	
gcg tgt gct ggg gcg cct gac tcc cac cca gct acc gtg gtc ttc gtg	283	
Ala Cys Ala Gly Ala Pro Asp Ser His Pro Ala Thr Val Val Phe Val		

10	15	20	
tgt ctc ttt ctc atc att ttc tgc cca gac cct gcc agt gcc atc cag			331
Cys Leu Phe Leu Ile Ile Phe Cys Pro Asp Pro Ala Ser Ala Ile Gln			
25	30	35	
gtg act gtg tct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg			379
Val Thr Val Ser Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val			
40	45	50	
acc ctg ccc tgc acc tat cag atg agc aac act ctc aca gtc ccc atc			427
Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Val Pro Ile			
55	60	65	70
gtg atc tgg aag tac aag tca ttc tgc cgg gac cgt att gcc gat gcc			475
Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala			
75	80	85	
ttc tct cct gcc agt gtg gac aac cag cta aat gcc cag ttg gca gct			523
Phe Ser Pro Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala			
90	95	100	
ggc aac ccc ggc tac aac ccc tat gtg gag tgc cag gac agt gta cgc			571
Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg			
105	110	115	
act gtc agg gtg gtg gcc acc aaa cag ggc aat gcg gtg acc ctg gga			619
Thr Val Arg Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly			
120	125	130	
gac tac tac caa ggc agg agg atc acc ata aca gga aat gct gac ctg			667
Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu			
135	140	145	150
acc ttc gag cag aca gcc tgg gga gac agt gga gtg tat tac tgc tct			715
Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser			
155	160	165	
gtg gtc tcg gcc caa gat ctg gat gga aac aac gag gcg tac gca gag			763
Val Val Ser Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu			
170	175	180	
ctc atc gtc ctt gat tgg ctc ttt gtg gtc gtg gtc tgc ctg gcg agc			811
Leu Ile Val Leu Asp Trp Leu Phe Val Val Val Cys Leu Ala Ser			
185	190	195	
ctc ctc ctc ctc ctc ctg ggc atc tgc tgg tgc cag tgc tgt cct			859
Leu Leu Leu Phe Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro			
200	205	210	
cac acc tgc tgc tgc tat gtc cga tgt ccc tgc tgc cca gac aag tgc			907
His Thr Cys Cys Tyr Val Arg Cys Pro Cys Pro Asp Lys Cys			
215	220	225	230
tgt tgc cct gag gct ctt tat gct gct ggc aaa gca gcc acc tca ggt			955
Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly			
235	240	245	
gtc ccg agc atc tat gcc ccc agc atc tat acc cac ctc tca cct gcc			1003
Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala			
250	255	260	
aag acc cca cca cct ccg cct gcc atg att ccc atg ggc cct ccc tat			1051
Lys Thr Pro Pro Pro Pro Ala Met Ile Pro Met Gly Pro Pro Tyr			
265	270	275	
ggg tac gga gac ttt gac aga cat agc tca gtt ggt ggc cac agc			1099
Gly Tyr Pro Gly Asp Phe Asp Arg His Ser Ser Val Gly Gly His Ser			
280	285	290	
tcc caa gta ccc ctg cgt gac gtg gat ggc agt gta tct tca gaa			1147
Ser Gln Val Pro Leu Leu Arg Asp Val Asp Gly Ser Val Ser Glu			
295	300	305	310
gta cga agt ggc tac agg atc cag gct aac cag caa gat gac tcc atg			1195
Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp Asp Ser Met			
315	320	325	
agg gtc cta tac tat atg gag aaa gag cta gcc aac ttt gac cct tcc			1243

Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser			
330	335	340	
cga cct ggc cct ccc aat ggc aga gtg gaa cg <sup>g</sup> gcc atg agt gaa gta			1291
Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val			
345	350	355	
acc tcc ctc cat gaa gat gac tgg cga tcg agg cct tcc agg gct cct			1339
Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro			
360	365	370	
gcc ctc acc ccc atc agg gat gag gag tgg aat cgc cac tcc cca cag			1387
Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Gln			
375	380	385	390
agt ccc aga aca tgg gag cag gaa ccc ctt caa gaa caa cca agg ggt			1435
Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly			
395	400	405	
ggt tgg ggg tct gga cgc cct cgg gcc cgc tct gtg gat gct cta gat			1483
Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp			
410	415	420	
gat atc aac cgg cct ggc tcc act gaa tca gga cgg tct tct ccc cca			1531
Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro			
425	430	435	
agt agt gga cgg aga gga cgg gcc tat gca cct cca aga agt cgc agc			1579
Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser			
440	445	450	
cgg gat gac ctc tat gac c <sup>cg</sup> gac gat cct agg gac ttg cca cat tcc			1627
Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser			
455	460	465	470
cga gat ccc cac tat tat gac gac atc agg tct aga gat cca cgt gct			1675
Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp Pro Arg Ala			
475	480	485	
gac ccc aga tcc cgt cag cga tcc cga gat cct cgg gat gct ggc ttc			1723
Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp Ala Gly Phe			
490	495	500	
agg tca agg gac cct cag tat gat ggg cga cta tta gaa gag gct tta			1771
Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu			
505	510	515	
aag aaa aag ggg tcg ggc gag aga agg agg gtt tac agg gag gaa gaa			1819
Lys Lys Lys Gly Ser Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu			
520	525	530	
gag gaa gag gag ggc caa tac ccc cca gca cct cca cct tac tca gag			1867
Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu			
535	540	545	550
act gac tcg cag gcc tca cgg gag agg ctg aaa aag aat ttg gcc			1915
Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala			
555	560	565	
ctg agt cgg gaa agt tta gtc gtc tga tccacgtttt gtatgtagct			1962
Leu Ser Arg Glu Ser Leu Val Val *			
570	575		
tttgtacttt ttttttaatt ggaatcaata ttgatgaaac ttcaagccta ataaaatgtc			2022
taatcacaaa aaaaaaaaa			2040

<210> 11  
<211> 574  
<212> PRT  
<213> Rattus norvegicus

<400> 11  
Met Ala Pro Ala Ala Gly Ala Cys Ala Gly Ala Pro Asp Ser His Pro  
1 5 10 15  
Ala Thr Val Val Phe Val Cys Leu Phe Leu Ile Ile Phe Cys Pro Asp

20	25	30
Pro Ala Ser Ala Ile Gln Val Thr Val Ser Asp Pro Tyr His Val Val		
35	40	45
Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr Tyr Gln Met Ser Asn		
50	55	60
Thr Leu Thr Val Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg		
65	70	75
Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu		
85	90	95
Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu		
100	105	110
Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly		
115	120	125
Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile		
130	135	140
Thr Gly Asn Ala Asp Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser		
145	150	155
Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn		
165	170	175
Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp Trp Leu Phe Val Val		
180	185	190
Val Val Cys Leu Ala Ser Leu Leu Phe Leu Leu Leu Gly Ile Cys		
195	200	205
Trp Cys Gln Cys Cys Pro His Thr Cys Cys Tyr Val Arg Cys Pro		
210	215	220
Cys Cys Pro Asp Lys Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly		
225	230	235
Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr		
245	250	255
Thr His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile		
260	265	270
Pro Met Gly Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg His Ser		
275	280	285
Ser Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg Asp Val Asp		
290	295	300
Gly Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn		
305	310	315
Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu		
325	330	335
Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu		
340	345	350
Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser		
355	360	365
Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp		
370	375	380
Asn Arg His Ser Pro Gln Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu		
385	390	395
Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg		
405	410	415
Ser Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser		
420	425	430
Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala		
435	440	445
Pro Pro Arg Ser Arg Ser Arg Asp Asp Asp Leu Tyr Asp Pro Asp Asp Pro		
450	455	460
Arg Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg		
465	470	475
Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp		
485	490	495

Pro	Arg	Asp	Ala	Gly	Phe	Arg	Ser	Arg	Asp	Pro	Gln	Tyr	Asp	Gly	Arg
					500			505						510	
Leu	Leu	Glu	Glu	Ala	Leu	Lys	Lys	Gly	Ser	Gly	Glu	Arg	Arg	Arg	
					515			520					525		
Val	Tyr	Arg	Glu	Glu	Glu	Glu	Glu	Gly	Gln	Tyr	Pro	Pro	Ala		
					530			535				540			
Pro	Pro	Pro	Tyr	Ser	Glu	Thr	Asp	Ser	Gln	Ala	Ser	Arg	Glu	Arg	Arg
					545			550				555			560
Leu	Lys	Lys	Asn	Leu	Ala	Leu	Ser	Arg	Glu	Ser	Leu	Val	Val		
					565			570							

<210> 12

<211> 1893

<212> DNA

<213> Rattus norvegicus

<400> 12

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agcacgcacc	cttctccgcc	ttgggtctcg	ccgcgcgggg	tactctcggg	atacttggga		180									
ggggacgcgc	gggcaccgtc	gctgctagac	ggccgcg	atg gcg	ccg gcg	gcc ggc	235									
				Met Ala	Pro Ala	Ala Gly										
				1		5										
gcg	tgt	gct	ggg	gcg	cct	gac	tcc	cac	cca	gct	acc	gtg	gtc	ttc	gtg	283
Ala	Cys	Ala	Gly	Ala	Pro	Asp	Ser	His	Pro	Ala	Thr	Val	Val	Phe	Val	
					10			15			20					
tgt	ctc	ttt	ctc	atc	att	ttc	tgc	cca	gac	cct	gcc	agt	gcc	atc	cag	331
Cys	Leu	Phe	Leu	Ile	Ile	Phe	Cys	Pro	Asp	Pro	Ala	Ser	Ala	Ile	Gln	
					25			30			35					
gtg	act	gtg	tct	gac	ccc	tac	cac	gta	gtg	atc	ctg	ttc	cag	cca	gtg	379
Val	Thr	Val	Ser	Asp	Pro	Tyr	His	Val	Val	Ile	Leu	Phe	Gln	Pro	Val	
					40			45			50					
acc	ctg	ccc	tgc	acc	tat	cag	atg	agc	aac	act	ctc	aca	gtc	ccc	atc	427
Thr	Leu	Pro	Cys	Thr	Tyr	Gln	Met	Ser	Asn	Thr	Leu	Thr	Val	Pro	Ile	
					55			60			65			70		
gtg	atc	tgg	aag	tac	aag	tca	ttc	tgc	cgg	gac	cgt	att	gcc	gat	gcc	475
Val	Ile	Trp	Lys	Tyr	Lys	Ser	Phe	Cys	Arg	Asp	Arg	Ile	Ala	Asp	Ala	
					75			80			85					
ttc	tct	cct	gcc	agt	gtg	gac	aac	cag	cta	aat	gcc	cag	ttg	gca	gct	523
Phe	Ser	Pro	Ala	Ser	Val	Asp	Asn	Gln	Leu	Asn	Ala	Gln	Leu	Ala	Ala	
					90			95			100					
ggc	aac	ccc	ggc	tac	aac	ccc	tat	gtg	gag	tgc	cag	gac	agt	gta	cgc	571
Gly	Asn	Pro	Gly	Tyr	Asn	Pro	Tyr	Val	Glu	Cys	Gln	Asp	Ser	Val	Arg	
					105			110			115					
act	gtc	agg	gtg	gtg	gcc	acc	aaa	cag	ggc	aat	gct	gtg	acc	ctg	gga	619
Thr	Val	Arg	Val	Val	Ala	Thr	Lys	Gln	Gly	Asn	Ala	Val	Thr	Leu	Gly	
					120			125			130					
gac	tac	tac	caa	ggc	agg	agg	atc	acc	ata	aca	gga	aat	gct	gac	ctg	667
Asp	Tyr	Tyr	Gln	Gly	Arg	Arg	Ile	Thr	Ile	Thr	Gly	Asn	Ala	Asp	Leu	
					135			140			145			150		
acc	ttc	gag	cag	aca	gcc	tgg	gga	gac	agt	gga	gtg	tat	tac	tgc	tct	715
Thr	Phe	Glu	Gln	Thr	Ala	Trp	Gly	Asp	Ser	Gly	Val	Tyr	Tyr	Cys	Ser	
					155			160			165					
gtg	gtc	tcg	gcc	caa	gat	ctg	gat	gga	aac	aac	gag	gct	tac	gca	gag	763
Val	Val	Ser	Ala	Gln	Asp	Leu	Asp	Gly	Asn	Asn	Glu	Ala	Tyr	Ala	Glu	
					170			175			180					
ctc	atc	gtc	ctt	gtt	tat	gct	gct	ggc	aaa	gca	gcc	acc	tca	ggt	gtc	811
Leu	Ile	Val	Leu	Val	Tyr	Ala	Ala	Gly	Lys	Ala	Ala	Thr	Ser	Gly	Val	
					185			190			195					

ccg agc atc tat gcc ccc agc atc tat acc cac ctc tca cct gcc aag	859
Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala Lys	
200 205 210	
acc cca cca cct ccg cct gcc atg att ccc atg ggc cct ccc tat ggg	907
Thr Pro Pro Pro Pro Ala Met Ile Pro Met Gly Pro Pro Tyr Gly	
215 220 225 230	
tac cct gga gac ttt gac aga cat agc tca gtt ggt ggc cac agc tcc	955
Tyr Pro Gly Asp Phe Asp Arg His Ser Ser Val Gly Gly His Ser Ser	
235 240 245	
caa gta ccc ctg ctg cgt gac gtg gat ggc agt gta tct tca gaa gta	1003
Gln Val Pro Leu Leu Arg Asp Val Asp Gly Ser Val Ser Ser Glu Val	
250 255 260	
cga agt ggc tac agg atc cag gct aac cag caa gat gac tcc atg agg	1051
Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln Gln Asp Asp Ser Met Arg	
265 270 275	
gtc cta tac tat atg gag aaa gag cta gcc aac ttt gac cct tcc cga	1099
Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg	
280 285 290	
cct ggc cct ccc aat ggc aga gtg gaa cgg gcc atg agt gaa gta acc	1147
Pro Gly Pro Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr	
295 300 305 310	
tcc ctc cat gaa gat gac tgg cga tcg agg cct tcc agg gct cct gcc	1195
Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala	
315 320 325	
ctc acc ccc atc agg gat gag gag tgg aat cgc cac tcc cca cag agt	1243
Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Gln Ser	
330 335 340	
ccc aga aca tgg gag cag gaa ccc ctt caa gaa caa cca agg ggt ggt	1291
Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly	
345 350 355	
tgg ggg tct gga cgc cct cgg gcc cgc tct gtg gat gct cta gat gat	1339
Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp	
360 365 370	
atc aac cgg cct ggc tcc act gaa tca gga cgg tct tct ccc cca agt	1387
Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser	
375 380 385 390	
agt gga cgg aga gga cgg gcc tat gca cct cca aga agt cgc agc cgg	1435
Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg	
395 400 405	
gat gac ctc tat gac ccg gac gat cct agg gac ttg cca cat tcc cga	1483
Asp Asp Leu Tyr Asp Pro Asp Pro Arg Asp Leu Pro His Ser Arg	
410 415 420	
gat ccc cac tat tat gac gac atc agg tct aga gat cca cgt gct gac	1531
Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser Arg Asp Pro Arg Ala Asp	
425 430 435	
ccc aga tcc cgt cag cga tcc cga gat cct cgg gat gct ggc ttc agg	1579
Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro Arg Asp Ala Gly Phe Arg	
440 445 450	
tca agg gac cct cag tat gat ggg cga cta tta gaa gag gct tta aag	1627
Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Ala Leu Lys	
455 460 465 470	
aaa aag ggg tcg ggc gag aga agg agg gtt tac agg gag gaa gaa gag	1675
Lys Lys Gly Ser Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu	
475 480 485	
gaa gag gag ggc caa tac ccc cca gca cct cca cct tac tca gag act	1723
Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro Pro Tyr Ser Glu Thr	
490 495 500	
gac tcg cag gcc tca cgg gag agg agg ctg aaa aag aat ttg gcc ctg	1771
Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu	



Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly  
 370 375 380  
 Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro  
 385 390 395 400  
 Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg  
 405 410 415  
 Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Ile Arg Ser  
 420 425 430  
 Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser Arg Asp Pro  
 435 440 445  
 Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu  
 450 455 460  
 Leu Glu Glu Ala Leu Lys Lys Gly Ser Gly Glu Arg Arg Arg Val  
 465 470 475 480  
 Tyr Arg Glu Glu Glu Glu Glu Gly Gln Tyr Pro Pro Ala Pro  
 485 490 495  
 Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu  
 500 505 510  
 Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val  
 515 520 525

<210> 14

<211> 1886

<212> DNA

<213> Mus musculus

<400> 14

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Met Ala Pro Ala Ala Ser Ala Cys Ala	
1 5	
ggg gcg cct ggc tcc cac ccg gcc acc acg atc ttc gtg tgt ctt ttt	100
Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe	
10 15 20 25	
ctc atc att tac tgc cca gac cgt gcc agt gcc atc cag gtg acc gtg	148
Leu Ile Tyr Cys Pro Asp Arg Ala Ser Ala Ile Gln Val Thr Val	
30 35 40	
cct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg aca cta cac	196
Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His	
45 50 55	
tgc acc tac cag atg agc aat acc ctc aca gcc cct atc gtg atc tgg	244
Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp	
60 65 70	
aag tat aag tcg ttc tgt cgg gac cgt gtt gcc gac gcc ttc tcc cct	292
Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro	
75 80 85	
gcc agc gtg gac aac cag ctc aac gcc cag ctg gcg gct ggc aac ccc	340
Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro	
90 95 100 105	
ggc tac aac ccc tat gtg gag tgc cag gac agc gta cgc act gtc agg	388
Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg	
110 115 120	
gtg gtg gcc acc aaa cag ggc aat gct gtg acc ctg gga gac tac tac	436
Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr	
125 130 135	
cag ggc agg aga atc acc atc aca gga aat gct ggc ctg acc ttc gag	484
Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Gly Leu Thr Phe Glu	
140 145 150	
cag acg gcc tgg gga gac agt gga gtg tat tac tgc tcc gtg gtc tca	532
Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser	

155	160	165	
gcc caa gat ctg gat ggg aac aac gag gcg tac	gca gag ctc att gtc		580
Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr	Ala Glu Leu Ile Val		
170	175	180	185
ctt ggc agg acc tca gaa gcc cct gag ctc cta	cct ggt ttt cgg gcg		628
Leu Gly Arg Thr Ser Glu Ala Pro Glu Leu Leu	Pro Gly Phe Arg Ala		
190	195	200	
ggg ccc ttg gaa .gat tgg ctc ttt gtg gtc	gtc tgc ctg gca agc		676
Gly Pro Leu Glu Asp Trp Leu Phe Val Val Val	Cys Leu Ala Ser		
205	210	215	
ctc ctc ttc ctc ctc ctg ggc atc tgc tgg tgc	cag tgc tgt ccc		724
Leu Leu Phe Leu Leu Gly Ile Cys Trp Cys	Gln Cys Cys Pro		
220	225	230	
cac acc tgc tgc tgc tat gtc aga tgt ccc tgc	tgc cca gac aag tgc		772
His Thr Cys Cys Tyr Val Arg Cys Pro Cys	Cys Pro Asp Lys Cys		
235	240	245	
tgt tgc cct gag gcc ctt tat gct gct ggc aaa	gca gcc acc tca ggt		820
Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly	Lys Ala Ala Thr Ser Gly		
250	255	260	265
gtg cca agc atc tat gcc ccc agc atc tat acc	cac ctc tct cct gcc		868
Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr	Thr His Leu Ser Pro Ala		
270	275	280	
aag act ccg cca cct ccg cct gcc atg att	ccc atg cgt cct ccc tat		916
Lys Thr Pro Pro Pro Pro Ala Met Ile Pro	Met Arg Pro Pro Tyr		
285	290	295	
ggg tac cct gga gac ttt gac agg acc agc	tca gtt ggt ggc cac agc		964
Gly Tyr Pro Gly Asp Phe Asp Arg Thr Ser	Ser Val Gly Gly His Ser		
300	305	310	
tcc cag gtg ccc ctg ctg cgt gaa gtg gat	ggg agc gta tct tca gaa		1012
Ser Gln Val Pro Leu Leu Arg Glu Val Asp	Gly Ser Val Ser Ser Glu		
315	320	325	
gta cga agt ggc tac agg atc cag gct aac	cag caa gat gac tcc atg		1060
Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn	Gln Gln Asp Asp Ser Met		
330	335	340	345
agg gtc cta tac tat atg gag aag gag cta	gcc aac ttc gat cct tcc		1108
Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu	Ala Asn Phe Asp Pro Ser		
350	355	360	
cgg cct ggc cct ccc aat ggc cga gtg	gaa cgx gcc atg agt gaa gta		1156
Arg Pro Gly Pro Pro Asn Gly Arg Val Glu	Arg Ala Met Ser Glu Val		
365	370	375	
acc tcc ctc cat gaa gat gac tgg cga tct	cgx cct tcc agg gct cct		1204
Thr Ser Leu His Glu Asp Asp Trp Arg Ser	Arg Pro Ser Arg Ala Pro		
380	385	390	
gcc ctc aca ccc atc agg gat gag gag tgg	aat cgc cac tcc cct cgx		1252
Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp	Asn Arg His Ser Pro Arg		
395	400	405	
agt ccc aga aca tgg gag cag gaa ccc ctt	caa gaa cag cca agg ggt		1300
Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu	Gln Glu Gln Pro Arg Gly		
410	415	420	425
ggt tgg ggg tct ggg cgg cct cgx cgc tct	gtg gat gct cta gat		1348
Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg	Ser Val Asp Ala Leu Asp		
430	435	440	
gac atc aac cgg cct ggc tcc act gaa tca	gga agg tct tct ccc cca		1396
Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser	Gly Arg Ser Ser Pro Pro		
445	450	455	
agt agt gga cgg aga ggg cgg gcc tat	gca cct ccg aga agt cgc agc		1444
Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala	Pro Pro Arg Ser Arg Ser		
460	465	470	
cgx gat gac ctc tat gac ccc gac gat	cct aga gac ttg cca cat tcc		1492

Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser				
475	480	485		
cga gat ccc cac tat tat gat gat ttg agg tct agg gat cca cgt gct			1540	
Arg Asp Pro His Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala				
490	495	500	505	
gac ccc aga tcc cgt cag cga tcc cac gat cct cgg gat gct ggc ttc			1588	
Asp Pro Arg Ser Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe				
510	515	520		
agg tca cgg gac cct cag tat gat ggg cga ctc tta gaa gag gct tta			1636	
Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu				
525	530	535		
aag aaa aaa ggg gct ggg gag aga aga cgc gtt tac agg gag gaa gaa			1684	
Lys Lys Lys Gly Ala Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu				
540	545	550		
gaa gaa gaa gag gag ggc cac tat ccc cca gca cct ccg cct tac tct			1732	
Glu Glu Glu Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser				
555	560	565		
gag act gac tcg cag gcc tcg agg gag cgg agg atg aaa aag aat ttg			1780	
Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Met Lys Lys Asn Leu				
570	575	580	585	
gcc ctg agt cgg gaa agt tta gtc gtc tga tcccacgttt tgttatgtag			1830	
Ala Leu Ser Arg Glu Ser Leu Val Val *				
590	595			
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<212> DNA  
<213> Mus musculus

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ggg gcg cct ggc tcc cac ccg gcc acc acg atc ttc gtg tgt ctt ttt		100		
Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe				
10	15	20	25	
ctc atc att tac tgc cca gac cgt gcc agt gcc atc cag gtg acc gtg		148		
Leu Ile Ile Tyr Cys Pro Asp Arg Ala Ser Ala Ile Gln Val Thr Val				
30	35	40		
cct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg aca cta cac		196		
Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His				
45	50	55		
tgc acc tac cag atg agc aat acc ctc aca gcc cct atc gtg atc tgg		244		
Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp				
60	65	70		
aag tat aag tcg ttc tgt cgg gac cgt gtt gcc gac gcc ttc tcc cct		292		
Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro				
75	80	85		
gcc agc gtg gac aac cag ctc aac gcc cag ctg gcg gct ggc aac ccc		340		
Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro				
90	95	100	105	
ggc tac aac ccc tat gtg gag tgc cag gac agc gta cgc act gtc agg		388		
Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg				
110	115	120		
gtg gtg gcc acc aaa cag ggc aat gct gtg acc ctg gga gac tac tac		436		
Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr				
125	130	135		
cag ggc agg aga atc acc atc aca gga aat gct ggc ctg acc ttc gag		484		

Gln	Gly	Arg	Arg	Ile	Thr	Ile	Thr	Gly	Asn	Ala	Gly	Leu	Thr	Phe	Glu	
140				145								150				
cag	acg	gcc	tgg	gga	gac	agt	gga	gtg	tat	tac	tgc	tcc	gtg	gtc	tca	532
Gln	Thr	Ala	Trp	Gly	Asp	Ser	Gly	Val	Tyr	Tyr	Cys	Ser	Val	Val	Ser	
155				160								165				
gcc	caa	gat	ctg	gat	ggg	aac	aac	gag	gcg	tac	gca	gag	ctc	att	gtc	580
Ala	Gln	Asp	Leu	Asp	Gly	Asn	Asn	Glu	Ala	Tyr	Ala	Glu	Leu	Ile	Val	
170				175								180			185	
ctt	gat	tgg	ctc	ttt	gtg	gtc	gtc	tgc	ctg	gca	agc	ctc	ctc	ttc		628
Leu	Asp	Trp	Leu	Phe	Val	Val	Val	Val	Cys	Leu	Ala	Ser	Leu	Leu	Phe	
				190					195				200			
ttc	ctc	ctc	ctg	ggc	atc	tgc	tgg	tgc	cag	tgc	tgt	ccc	cac	acc	tgc	676
Phe	Leu	Leu	Leu	Gly	Ile	Cys	Trp	Cys	Gln	Cys	Cys	Pro	His	Thr	Cys	
				205					210				215			
tgc	tgc	tat	gtc	aga	tgt	ccc	tgc	tgc	cca	gac	aag	tgc	tgt	tgc	cct	724
Cys	Cys	Tyr	Val	Arg	Cys	Pro	Cys	Cys	Pro	Asp	Lys	Cys	Cys	Pro		
				220					225				230			
gag	gcc	ctt	tat	gct	gct	ggc	aaa	gca	gcc	acc	tca	ggt	gtg	cca	agc	772
Glu	Ala	Leu	Tyr	Ala	Ala	Gly	Lys	Ala	Ala	Thr	Ser	Gly	Val	Pro	Ser	
				235					240				245			
atc	tat	gcc	ccc	agc	atc	tat	acc	cac	ctc	tct	cct	gcc	aag	act	ccg	820
Ile	Tyr	Ala	Pro	Ser	Ile	Tyr	Thr	His	Leu	Ser	Pro	Ala	Lys	Thr	Pro	
				250					255				260			265
cca	cct	ccg	cct	gcc	atg	att	ccc	atg	cgt	cct	ccc	tat	ggg	tac	cct	868
Pro	Pro	Pro	Pro	Ala	Met	Ile	Pro	Met	Arg	Pro	Pro	Tyr	Gly	Tyr	Pro	
				270					275				280			
gga	gac	ttt	gac	agg	acc	agc	tca	gtt	ggt	ggc	cac	agc	tcc	cag	gtg	916
Gly	Asp	Phe	Asp	Arg	Thr	Ser	Ser	Val	Gly	Gly	His	Ser	Ser	Gln	Val	
				285					290				295			
ccc	ctg	ctg	cgt	gaa	gtg	gat	ggg	agc	gta	tct	tca	gaa	gta	cga	agt	964
Pro	Leu	Leu	Arg	Glu	Val	Asp	Gly	Ser	Val	Ser	Ser	Glu	Val	Arg	Ser	
				300					305				310			
ggc	tac	agg	atc	cag	gct	aac	cag	caa	gat	gac	tcc	atg	agg	gtc	cta	1012
Gly	Tyr	Arg	Ile	Gln	Ala	Asn	Gln	Gln	Asp	Asp	Ser	Met	Arg	Val	Leu	
				315					320				325			
tac	tat	atg	gag	aag	gag	cta	gcc	aac	ttc	gat	cct	tcc	cgg	cct	ggc	1060
Tyr	Tyr	Met	Glu	Lys	Glu	Leu	Ala	Asn	Phe	Asp	Pro	Ser	Arg	Pro	Gly	
				330					335				340			345
cct	ccc	aat	ggc	cga	gtg	gaa	cgg	gcc	atg	agt	gaa	gta	acc	tcc	ctc	1108
Pro	Pro	Asn	Gly	Arg	Val	Glu	Arg	Ala	Met	Ser	Glu	Val	Thr	Ser	Leu	
				350					355				360			
cat	gaa	gat	gac	tgg	cga	tct	cgg	cct	tcc	agg	gct	cct	gcc	ctc	aca	1156
His	Glu	Asp	Asp	Trp	Arg	Ser	Arg	Pro	Ser	Arg	Ala	Pro	Ala	Leu	Thr	
				365					370				375			
ccc	atc	agg	gat	gag	gag	tgg	aat	cgc	cac	tcc	cct	cgg	agt	ccc	aga	1204
Pro	Ile	Arg	Asp	Glu	Glu	Trp	Asn	Arg	His	Ser	Pro	Arg	Ser	Pro	Arg	
				380					385				390			
aca	tgg	gag	cag	gaa	ccc	ctt	caa	gaa	cag	cca	agg	ggt	ggt	tgg	ggg	1252
Thr	Trp	Glu	Gln	Glu	Pro	Leu	Gln	Glu	Gln	Pro	Arg	Gly	Gly	Trp	Gly	
				395					400				405			
tct	ggg	cgg	cct	cg	gcc	cgc	tct	gtg	gat	gct	cta	gat	gac	atc	aac	1300
Ser	Gly	Arg	Pro	Arg	Ala	Arg	Ser	Val	Asp	Ala	Leu	Asp	Asp	Ile	Asn	
				410					415				420			425
cgg	cct	ggc	tcc	act	gaa	tca	gga	agg	tct	tct	ccc	cca	agt	agt	gga	1348
Arg	Pro	Gly	Ser	Thr	Glu	Ser	Gly	Arg	Ser	Ser	Pro	Pro	Ser	Ser	Gly	
				430					435				440			
cg	gg	gg	cg	gg	tat	gca	cct	ccg	aga	agt	cgc	agc	cg	gat	gac	1396
Arg	Arg	Gly	Arg	Gly	Ala	Tyr	Ala	Pro	Pro	Arg	Ser	Arg	Arg	Asp	Asp	
				445					450				455			

ctc tat gac ccc gac gat cct aga gac ttg cca cat tcc cga gat ccc	1444
Leu Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro	
460 465 470	
cac tat tat gat gat ttg agg tct agg gat cca cgt gct gac ccc aga	1492
His Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg	
475 480 485	
tcc cgt cag cga tcc cac gat cct cggt gat gct ggc ttc agg tca cggt	1540
Ser Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg	
490 495 500 505	
gac cct cag tat gat ggg cga ctc tta gaa gag gct tta aag aaa aaa	1588
Asp Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Lys	
510 515 520	
ggg gct ggg gag aga aga cgc gtt tac agg gag gaa gaa gaa gaa gaa	1636
Gly Ala Gly Glu Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu	
525 530 535	
gag gag ggc cac tat ccc cca gca cct ccgt cct tac tct gag act gac	1684
Glu Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp	
540 545 550	
tcg cag gcc tcg agg gag cggt agg atg aaa aag aat ttg gcc ctg agt	1732
Ser Gln Ala Ser Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser	
555 560 565	
cgg gaa agt tta gtc gtc tga tcccacgttt tgttatgttag cttttatact	1783
Arg Glu Ser Leu Val Val *	
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Gly Ala Pro Gly Ser His Pro Ala Thr Thr Ile Phe Val Cys Leu Phe	
10 15 20 25	
ctc atc att tac tgc cca gac cgt gcc agt gcc atc cag gtg acc gtg	148
Leu Ile Tyr Cys Pro Asp Arg Ala Ser Ala Ile Gln Val Thr Val	
30 35 40	
cct gac ccc tac cac gta gtg atc ctg ttc cag cca gtg aca cta cac	196
Pro Asp Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu His	
45 50 55	
tgc acc tac cag atg agc aat acc ctc aca gcc cct atc gtg atc tgg	244
Cys Thr Tyr Gln Met Ser Asn Thr Leu Thr Ala Pro Ile Val Ile Trp	
60 65 70	
aag tat aag tcg ttc tgt cgg gac cgt gtt gcc gac gcc ttc tcc cct	292
Lys Tyr Lys Ser Phe Cys Arg Asp Arg Val Ala Asp Ala Phe Ser Pro	
75 80 85	
gcc agc gtg gac aac cag ctc aac gcc cag ctg gcg gct ggc aac ccc	340
Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro	
90 .95 100 105	
ggc tac aac ccc tat gtg gag tgc cag gac agc gta cgc act gtc agg	388
Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg	
110 115 120	
gtg gtg gcc acc aaa cag ggc aat gct gtg acc ctg gga gac tac tac	436
Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr	
125 130 135	

cag ggc agg aga atc acc atc aca gga aat gct ggc ctg acc ttc gag	484
Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Gly Leu Thr Phe Glu	
140 145 150	
cag acg gcc tgg gga gac agt gga gtg tat tac tgc tcc gtg gtc tca	532
Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser	
155 160 165	
gcc caa gat ctg gat ggg aac aac gag gcg tac gca gag ctc att gtc	580
Ala Gln Asp Leu Asp Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val	
170 175 180 185	
ctt gtt tat gct gct ggc aaa gca gcc acc tca ggt gtg cca agc atc	628
Leu Val Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile	
190 195 200	
tat gcc ccc agc atc tat acc cac ctc tct cct gcc aag act ccg cca	676
Tyr Ala Pro Ser Ile Tyr Thr His Leu Ser Pro Ala Lys Thr Pro Pro	
205 210 215	
cct ccg cct gcc atg att ccc atg cgt cct ccc tat ggg tac cct gga	724
Pro Pro Pro Ala Met Ile Pro Met Arg Pro Pro Tyr Gly Tyr Pro Gly	
220 225 230	
gac ttt gac agg acc agc tca gtt ggt ggc cac agc tcc cag gtg ccc	772
Asp Phe Asp Arg Thr Ser Ser Val Gly Gly His Ser Ser Gln Val Pro	
235 240 245	
ctg ctg cgt gaa gtg gat ggg agc gta tct tca gaa gta cga agt ggc	820
Leu Leu Arg Glu Val Asp Gly Ser Val Ser Ser Glu Val Arg Ser Gly	
250 255 260 265	
tac agg atc cag gct aac cag caa gat gac tcc atg agg gtc cta tac	868
Tyr Arg Ile Gln Ala Asn Gln Asp Asp Ser Met Arg Val Leu Tyr	
270 275 280	
tat atg gag aag gag cta gcc aac ttc gat cct tcc cgg cct ggc cct	916
Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro	
285 290 295	
ccc aat ggc cga gtg gaa cgg gcc atg agt gaa gta acc tcc ctc cat	964
Pro Asn Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His	
300 305 310	
gaa gat gac tgg cga tct cgg cct tcc agg gct cct gcc ctc aca ccc	1012
Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro	
315 320 325	
atc agg gat gag gag tgg aat cgc cac tcc cct cgg agt ccc aga aca	1060
Ile Arg Asp Glu Glu Trp Asn Arg His Ser Pro Arg Ser Pro Arg Thr	
330 335 340 345	
tgg gag cag gaa ccc ctt caa gaa cag cca agg ggt ggt tgg ggg tct	1108
Trp Glu Gln Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser	
350 355 360	
ggg cgg cct cgg gcc cgc tct gtg gat gct cta gat gac atc aac cgg	1156
Gly Arg Pro Ala Arg Ser Val Asp Ala Leu Asp Asp Ile Asn Arg	
365 370 375	
cct ggc tcc act gaa tca gga agg tct tct ccc cca agt agt gga cgg	1204
Pro Gly Ser Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg	
380 385 390	
aga ggg cgg gcc tat gca cct cgg aga agt cgc agc cgg gat gac ctc	1252
Arg Gly Arg Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu	
395 400 405	
tat gac ccc gac gat cct aga gac ttg cca cat tcc cga gat ccc cac	1300
Tyr Asp Pro Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro His	
410 415 420 425	
tat tat gat gat ttg agg tct agg gat cca cgt gct gac ccc aga tcc	1348
Tyr Tyr Asp Asp Leu Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser	
430 435 440	
cgt cag cga tcc cac gat cct cgg gat gct ggc ttc agg tca cgg gac	1396
Arg Gln Arg Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp	

445	450	455	
cct cag tat gat ggg cga ctc tta gaa gag gct tta aag aaa aaa ggg Pro Gln Tyr Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Lys Gly			1444
460	465	470	
gct ggg gag aga aga cgc gtt tac agg gag gaa gaa gaa gaa gag Ala Gly Glu Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu			1492
475	480	485	
gag ggc cac tat ccc cca gca cct ccg cct tac tct gag act gac tcg Glu Gly His Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser			1540
490	495	500	505
cag gcc tcg agg gag cgg agg atg aaa aag aat ttg gcc ctg agt cgg Gln Ala Ser Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser Arg			1588
510	515	520	
gaa agt tta gtc gtc tga tcccacgttt tgttatgttag cttttataact Glu Ser Leu Val Val *			1636
525			
tttttaattt gaatatttat gaaactcttc accaaggccta ataaaa			1682

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<211> 594

<212> PRT

<213> Mus musculus

<400> 17

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Ala Thr Thr Ile Phe Val Cys Leu Phe Leu Ile Ile Tyr Cys Pro Asp			
20	25	30	
Arg Ala Ser Ala Ile Gln Val Thr Val Pro Asp Pro Tyr His Val Val			
35	40	45	
Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn			
50	55	60	
Thr Leu Thr Ala Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg			
65	70	75	80
Asp Arg Val Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu			
85	90	95	
Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu			
100	105	110	
Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly			
115	120	125	
Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile			
130	135	140	
Thr Gly Asn Ala Gly Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser			
145	150	155	160
Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn			
165	170	175	
Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Gly Arg Thr Ser Glu Ala			
180	185	190	
Pro Glu Leu Leu Pro Gly Phe Arg Ala Gly Pro Leu Glu Asp Trp Leu			
195	200	205	
Phe Val Val Val Cys Leu Ala Ser Leu Leu Phe Phe Leu Leu Leu			
210	215	220	
Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys Tyr Val			
225	230	235	240
Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala Leu Tyr			
245	250	255	
Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro			
260	265	270	
Ser Ile Tyr Thr His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro			

275	280	285
Ala Met Ile Pro Met Arg Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp		
290	295	300
Arg Thr Ser Ser Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg		
305	310	315
Glu Val Asp Gly Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile		320
325	330	335
Gln Ala Asn Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu		
340	345	350
Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly		
355	360	365
Arg Val Glu Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp		
370	375	380
Trp Arg Ser Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp		
385	390	395
Glu Glu Trp Asn Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln		
405	410	415
Glu Pro Leu Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro		
420	425	430
Arg Ala Arg Ser Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser		
435	440	445
Thr Glu Ser Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg		
450	455	460
Ala Tyr Ala Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro		
465	470	475
Asp Asp Pro Arg Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp		
485	490	495
Asp Leu Arg Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg		
500	505	510
Ser His Asp Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr		
515	520	525
Asp Gly Arg Leu Leu Glu Glu Ala Leu Lys Lys Gly Ala Gly Glu		
530	535	540
Arg Arg Arg Val Tyr Arg Glu Glu Glu Glu Glu Glu Glu Gly His		
545	550	555
Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser		
565	570	575
Arg Glu Arg Arg Met Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu		
580	585	590
Val Val		

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 <213> Mus musculus

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Arg Ala Ser Ala Ile Gln Val Thr Val Pro Asp Pro Tyr His Val Val
35 40 45
Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn
50 55 60
Thr Leu Thr Ala Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg
65 70 75 80
Asp Arg Val Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu
85 90 95

Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu  
                   100                  105                  110  
 Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
                   115                  120                  125  
 Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile  
                   130                  135                  140  
 Thr Gly Asn Ala Gly Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser  
                   145                  150                  155                  160  
 Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
                   165                  170                  175  
 Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp Trp Leu Phe Val Val  
                   180                  185                  190  
 Val Val Cys Leu Ala Ser Leu Leu Phe Phe Leu Leu Gly Ile Cys  
                   195                  200                  205  
 Trp Cys Gln Cys Cys Pro His Thr Cys Cys Tyr Val Arg Cys Pro  
                   210                  215                  220  
 Cys Cys Pro Asp Lys Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly  
                   225                  230                  235                  240  
 Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr  
                   245                  250                  255  
 Thr His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile  
                   260                  265                  270  
 Pro Met Arg Pro Pro Tyr Gly Tyr Pro Gly Asp Phe Asp Arg Thr Ser  
                   275                  280                  285  
 Ser Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg Glu Val Asp  
                   290                  295                  300  
 Gly Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn  
                   305                  310                  315                  320  
 Gln Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu  
                   325                  330                  335  
 Ala Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu  
                   340                  345                  350  
 Arg Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser  
                   355                  360                  365  
 Arg Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp  
                   370                  375                  380  
 Asn Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu  
                   385                  390                  395                  400  
 Gln Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg  
                   405                  410                  415  
 Ser Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser  
                   420                  425                  430  
 Gly Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala  
                   435                  440                  445  
 Pro Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro  
                   450                  455                  460  
 Arg Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp Leu Arg  
                   465                  470                  475                  480  
 Ser Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser His Asp  
                   485                  490                  495  
 Pro Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg  
                   500                  505                  510  
 Leu Leu Glu Glu Ala Leu Lys Lys Lys Gly Ala Gly Glu Arg Arg Arg  
                   515                  520                  525  
 Val Tyr Arg Glu Glu Glu Glu Glu Glu Glu Gly His Tyr Pro Pro  
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 Ala Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg  
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20              25              30  
Arg Ala Ser Ala Ile Gln Val Thr Val Pro Asp Pro Tyr His Val Val  
35              40              45  
Ile Leu Phe Gln Pro Val Thr Leu His Cys Thr Tyr Gln Met Ser Asn  
50              55              60  
Thr Leu Thr Ala Pro Ile Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg  
65              70              75              80  
Asp Arg Val Ala Asp Ala Phe Ser Pro Ala Ser Val Asp Asn Gln Leu  
85              90              95  
Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu  
100             105             110  
Cys Gln Asp Ser Val Arg Thr Val Arg Val Val Ala Thr Lys Gln Gly  
115             120             125  
Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile  
130             135             140  
Thr Gly Asn Ala Gly Leu Thr Phe Glu Gln Thr Ala Trp Gly Asp Ser  
145             150             155             160  
Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln Asp Leu Asp Gly Asn  
165             170             175  
Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Val Tyr Ala Ala Gly Lys  
180             185             190  
Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr Ala Pro Ser Ile Tyr Thr  
195             200             205  
His Leu Ser Pro Ala Lys Thr Pro Pro Pro Pro Ala Met Ile Pro  
210             215             220  
Met Arg Pro Pro Tyr Tyr Pro Gly Asp Phe Asp Arg Thr Ser Ser  
225             230             235             240  
Val Gly Gly His Ser Ser Gln Val Pro Leu Leu Arg Glu Val Asp Gly  
245             250             255  
Ser Val Ser Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Asn Gln  
260             265             270  
Gln Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala  
275             280             285  
Asn Phe Asp Pro Ser Arg Pro Gly Pro Pro Asn Gly Arg Val Glu Arg  
290             295             300  
Ala Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg  
305             310             315             320  
Pro Ser Arg Ala Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Asn  
325             330             335  
Arg His Ser Pro Arg Ser Pro Arg Thr Trp Glu Gln Glu Pro Leu Gln  
340             345             350  
Glu Gln Pro Arg Gly Gly Trp Gly Ser Gly Arg Pro Arg Ala Arg Ser  
355             360             365  
Val Asp Ala Leu Asp Asp Ile Asn Arg Pro Gly Ser Thr Glu Ser Gly  
370             375             380  
Arg Ser Ser Pro Pro Ser Ser Gly Arg Arg Gly Arg Ala Tyr Ala Pro  
385             390             395             400  
Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Pro Asp Asp Pro Arg

405	410	415	
Asp Leu Pro His Ser Arg Asp Pro His Tyr Tyr Asp Asp	Leu Arg Ser		
420	425	430	
Arg Asp Pro Arg Ala Asp Pro Arg Ser Arg Gln Arg Ser His Asp Pro			
435	440	445	
Arg Asp Ala Gly Phe Arg Ser Arg Asp Pro Gln Tyr Asp Gly Arg Leu			
450	455	460	
Leu Glu Glu Ala Leu Lys Lys Gly Ala Gly Glu Arg Arg Arg Val			
465	470	475	480
Tyr Arg Glu Glu Glu Glu Glu Glu Gly His Tyr Pro Pro Ala			
485	490	495	
Pro Pro Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg			
500	505	510	
Met Lys Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val			
515	520	525	

<210> 20

<211> 18

<212> DNA

<213> Homo Sapiens

<220>

<221> misc\_binding

<222> 1..18

<223> sequencing oligonucleotide PrimerPU

<400> 20

tgtaaaacga cggccagt

18

<210> 21

<211> 18

<212> DNA

<213> Homo Sapiens

<220>

<221> misc\_binding

<222> 1..18

<223> sequencing oligonucleotide PrimerRP

<400> 21

cagggaaacag ctatgacc

18

<210> 22

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide sense primer

<400> 22

ctacaacccc tacgtcgagt

20

<210> 23

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

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<223> oligonucleotide anti sense primer

<400> 23
aggcggagat cgccagtcgt 20

<210> 24
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide sense primer

<400> 24
cctttgtcca cgtcgtttac gctc 24

<210> 25
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide anti sense primer

<400> 25
tcacagcggtt gccctgcttg 20

<210> 26
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide sense primer

<400> 26
ttactgctcc gtgggtctcag c 21

<210> 27
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide anti sense primer

<400> 27
agctactcct gtcaacgtct cc 22

<210> 28
<211> 167
<212> PRT
<213> Bos taurus

<400> 28
Met Arg Cys Gly Pro Leu Tyr Arg Phe Leu Trp Leu Trp Pro Tyr Leu
1 5 10 15
Ser Tyr Val Glu Ala Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys
20 25 30

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Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
     35                        40                        45  
 Gln Ser Val Ser Ser Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
     50                        55                        60  
 Gly Leu His Pro Leu Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
     65                        70                        80  
 Ile Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Arg Asn Val Val Gln  
     85                        90                        95  
 Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
     100                       105                       110  
 Ala Ser Lys Ser Cys Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu  
     115                       120                       125  
 Glu Ser Leu Gly Val Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
     130                       135                       140  
 Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln  
     145                       150                       160  
 Leu Asp Leu Ser Pro Gly Cys  
     165

<210> 29  
 <211> 146  
 <212> PRT  
 <213> Canis familiaris

<400> 29  
 Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
   1                        5                        10                        15  
 Ile Val Ala Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
   20                       25                       30  
 Lys Gln Arg Val Ala Gly Leu Asp Phe Ile Pro Gly Leu Gln Pro Val  
   35                       40                       45  
 Leu Ser Leu Ser Arg Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
   50                       55                       60  
 Leu Asn Ser Leu His Ser Arg Asn Val Val Gln Ile Ser Asn Asp Leu  
   65                       70                       75                       80  
 Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Ser Ser Lys Ser Cys  
   85                       90                       95  
 Pro Leu Pro Arg Ala Arg Gly Leu Glu Thr Phe Glu Ser Leu Gly Gly  
   100                      105                       110  
 Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
   115                      120                       125  
 Leu Gln Ala Ala Leu Gln Asp Met Leu Arg Arg Leu Asp Leu Ser Pro  
   130                      135                       140  
 Gly Cys  
   145

<210> 30  
 <211> 163  
 <212> PRT  
 <213> Gallus gallus

<400> 30  
 Met Cys Trp Arg Pro Leu Cys Arg Leu Trp Ser Tyr Leu Val Tyr Val  
   1                        5                        10                        15  
 Gln Ala Val Pro Cys Gln Ile Phe Gln Asp Asp Thr Lys Thr Leu Ile  
   20                       25                       30  
 Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Ser Val Ser  
   35                       40                       45  
 Ala Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro

50	55	60
Ile Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln		
65	70	75
Val Leu Thr Ser Leu Pro Ser Gln Asn Val Leu Gln Ile Ala Asn Asp		80
85	90	95
Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Phe Ser Lys Ser		
100	105	110
Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp		
115	120	125
Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser		
130	135	140
Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln Leu Asp Ile Ser		
145	150	155
Pro Glu Cys		160

<210> 31  
<211> 146  
<212> PRT  
<213> Gorilla gorilla

400	31		
Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr			
1	5	10	15
Ile Val Thr Arg Ile Ser Asp Ile Ser His Thr Gln Ser Val Ser Ser			
20	25	30	
Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile			
35	40	45	
Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile			
50	55	60	
Leu Thr Ser Met Pro Ser Arg Asn Met Ile Gln Ile Ser Asn Asp Leu			
65	70	75	80
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys			
85	90	95	
His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly			
100	105	110	
Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg			
115	120	125	
Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro			
130	135	140	
Gly Cys			
145			

<210> 32  
<211> 167  
<212> PRT  
<213> Homo sapiens

400	32		
Met His Trp Gly Thr Leu Cys Gly Phe Leu Trp Leu Trp Pro Tyr Leu			
1	5	10	15
Phe Tyr Val Gln Ala Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys			
20	25	30	
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr			
35	40	45	
Gln Ser Val Ser Ser Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro			
50	55	60	
Gly Leu His Pro Ile Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala			
65	70	75	80
Val Tyr Gln Gln Ile Leu Thr Ser Met Pro Ser Arg Asn Val Ile Gln			

85	90	95
Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala		
100	105	110
Phe Ser Lys Ser Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu		
115	120	125
Asp Ser Leu Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val		
130	135	140
Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln		
145	150	155
Leu Asp Leu Ser Pro Gly Cys		
165		

<210> 33

<211> 167

<212> PRT

<213> Macaca mulatta

<400> 33

Met Tyr Trp Arg Thr Leu Trp Gly Phe Leu Trp Leu Trp Pro Tyr Leu			
1	5	10	15
Phe Tyr Ile Gln Ala Val Pro Ile Gln Lys Val Gln Ser Asp Thr Lys			
20	25	30	
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr			
35	40	45	
Gln Ser Val Ser Ser Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro			
50	55	60	
Gly Leu His Pro Val Leu Thr Leu Ser Gln Met Asp Gln Thr Leu Ala			
65	70	75	80
Ile Tyr Gln Gln Ile Leu Ile Asn Leu Pro Ser Arg Asn Val Ile Gln			
85	90	95	
Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Ala			
100	105	110	
Phe Ser Lys Ser Cys His Leu Pro Leu Ala Ser Gly Leu Glu Thr Leu			
115	120	125	
Glu Ser Leu Gly Asp Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val			
130	135	140	
Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln			
145	150	155	160
Leu Asp Leu Ser Pro Gly Cys			
165			

<210> 34

<211> 167

<212> PRT

<213> Mus musculus

<400> 34

Met Cys Trp Arg Pro Leu Cys Arg Phe Leu Trp Leu Trp Ser Tyr Leu			
1	5	10	15
Ser Tyr Val Gln Ala Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys			
20	25	30	
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr			
35	40	45	
Gln Ser Val Ser Ala Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro			
50	55	60	
Gly Leu His Pro Ile Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala			
65	70	75	80
Val Tyr Gln Gln Val Leu Thr Ser Leu Pro Ser Gln Asn Val Leu Gln			
85	90	95	

Ile Ala Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
 100 105 110  
 Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro  
 115 120 125  
 Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
 130 135 140  
 Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
 145 150 155 160  
 Leu Asp Val Ser Pro Glu Cys  
 165

<210> 35

<211> 146

<212> PRT

<213> Ovus aries

<400> 35

Val Pro Ile Arg Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
 1 5 10 15  
 Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
 20 25 30  
 Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Leu  
 35 40 45  
 Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala Ile Tyr Gln Gln Ile  
 50 55 60  
 Leu Ala Ser Leu Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
 65 70 75 80  
 Glu Asn Leu Arg Asp Leu Leu His Leu Ala Ala Ser Lys Ser Cys  
 85 90 95  
 Pro Leu Pro Gln Val Arg Ala Leu Glu Ser Leu Glu Ser Leu Gly Val  
 100 105 110  
 Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
 115 120 125  
 Leu Gln Gly Ser Leu Gln Asp Met Leu Arg Gln Leu Asp Leu Ser Pro  
 130 135 140  
 Gly Cys  
 145

<210> 36

<211> 146

<212> PRT

<213> Pan troglodytes

<400> 36

Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
 1 5 10 15  
 Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
 20 25 30  
 Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
 35 40 45  
 Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
 50 55 60  
 Leu Thr Ser Met Pro Ser Arg Asn Met Ile Gln Ile Ser Asn Asp Leu  
 65 70 75 80  
 Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
 85 90 95  
 His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly  
 100 105 110  
 Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg

115                    120                    125  
Leu Gln Gly Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
130                    135                    140  
Gly Cys  
145

<210> 37  
<211> 146  
<212> PRT  
<213> Pongo pygmaeus

<400> 37  
Val Pro Ile Gln Lys Val Gln Asp Asp Thr Lys Thr Leu Ile Lys Thr  
1                    5                    10                    15  
Val Ile Thr Arg Ile Asn Asp Ile Ser His Thr Gln Ser Val Ser Ser  
20                    25                    30  
Lys Gln Lys Val Thr Gly Leu Asp Phe Ile Pro Gly Leu His Pro Ile  
35                    40                    45  
Leu Thr Leu Ser Lys Met Asp Gln Thr Leu Ala Val Tyr Gln Gln Ile  
50                    55                    60  
Leu Thr Ser Met Pro Ser Arg Asn Val Ile Gln Ile Ser Asn Asp Leu  
65                    70                    75                    80  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
85                    90                    95  
His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Arg Leu Gly Gly  
100                    105                    110  
Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu Ser Arg  
115                    120                    125  
Leu Gln Arg Ser Leu Gln Asp Met Leu Trp Gln Leu Asp Leu Ser Pro  
130                    135                    140  
Gly Cys  
145

<210> 38  
<211> 167  
<212> PRT  
<213> Rattus norvegicus

<400> 38  
Met Cys Trp Arg Pro Leu Cys Arg Phe Leu Trp Leu Trp Ser Tyr Leu  
1                    5                    10                    15  
Ser Tyr Val Gln Ala Val Pro Ile His Lys Val Gln Asp Asp Thr Lys  
20                    25                    30  
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Asn Asp Ile Ser His Thr  
35                    40                    45  
Gln Ser Val Ser Ala Arg Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
50                    55                    60  
Gly Leu His Pro Ile Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
65                    70                    75                    80  
Val Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Gln Asn Val Leu Gln  
85                    90                    95  
Ile Ala His Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
100                    105                    110  
Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Arg Gly Leu Gln Lys Pro  
115                    120                    125  
Glu Ser Leu Asp Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
130                    135                    140  
Val Ala Leu Ser Arg Leu Gln Gly Ser Leu Gln Asp Ile Leu Gln Gln  
145                    150                    155                    160

Leu Asp Leu Ser Pro Glu Cys  
165

<210> 39  
<211> 167  
<212> PRT  
<213> Sus scrofa

<400> 39  
Met Arg Cys Gly Pro Leu Cys Arg Phe Leu Trp Leu Trp Pro Tyr Leu.  
1 5 10 15  
Ser Tyr Val Glu Ala Val Pro Ile Trp Arg Val Gln Asp Asp Thr Lys  
20 25 30  
Thr Leu Ile Lys Thr Ile Val Thr Arg Ile Ser Asp Ile Ser His Met  
35 40 45  
Gln Ser Val Ser Ser Lys Gln Arg Val Thr Gly Leu Asp Phe Ile Pro  
50 55 60  
Gly Leu His Pro Val Leu Ser Leu Ser Lys Met Asp Gln Thr Leu Ala  
65 70 75 80  
Ile Tyr Gln Gln Ile Leu Thr Ser Leu Pro Ser Arg Asn Val Ile Gln  
85 90 95  
Ile Ser Asn Asp Leu Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala  
100 105 110  
Ser Ser Lys Ser Cys Pro Leu Pro Gln Ala Arg Ala Leu Glu Thr Leu  
115 120 125  
Glu Ser Leu Gly Gly Val Leu Glu Ala Ser Leu Tyr Ser Thr Glu Val  
130 135 140  
Val Ala Leu Ser Arg Leu Gln Gly Ala Leu Gln Asp Met Leu Arg Gln  
145 150 155 160  
Leu Asp Leu Ser Pro Gly Cys  
165

<210> 40  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 40  
Glu Thr Leu Asp  
1

<210> 41  
<211> 4  
<212> PRT  
<213> Mus musculus

<400> 41  
Gln Lys Pro Glu  
1

<210> 42  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 42  
Leu Asp Ser Leu Gly Gly  
1 5

<210> 43  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 43  
Glu Lys Leu Glu  
1

<210> 44  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 44  
Glu Lys Pro Glu  
1

<210> 45  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 45  
Glu Lys Pro Asp  
1

<210> 46  
<211> 5  
<212> PRT  
<213> Homo sapiens

<400> 46  
Thr Pro Asp Ser Leu  
1 5

<210> 47  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 47  
Gly Leu Gln Thr Leu Asp Ser Leu Gly  
1 5

<210> 48  
<211> 5  
<212> PRT  
<213> Homo sapiens

<400> 48  
Gly Gly Val Leu Glu  
1 5

<210> 49  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 49  
Thr Pro Asp Ser Leu Gly  
1 5

<210> 50  
<211> 9  
<212> PRT  
<213> Homo sapiens

<400> 50  
Ser Leu Gly Gly Val Leu Glu Ala Ser  
1 5

<210> 51  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 51  
Pro Glu Ser Leu Gly Gly  
1 5

<210> 52  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 52  
Pro Asp Ser Leu Gly Gly  
1 5

<210> 53  
<211> 7  
<212> PRT  
<213> Homo sapiens

<400> 53  
Leu Gly Gly Val Leu Glu Ala  
1 5

<210> 54  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 54  
Glu Asn Leu Arg Asp Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys  
1 5 10 15  
His Leu Pro Trp Ala Ser  
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<210> 55  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 55  
Leu Leu His Val Leu Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala  
1 5 10 15

Ser Gly Leu Glu Thr Leu  
20

<210> 56  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 56  
Ala Phe Ser Lys Ser Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr  
1 5 10 15  
Leu Asp Ser Leu Gly Gly  
20

<210> 57  
<211> 22  
<212> PRT  
<213> Homo sapiens

<400> 57  
Cys His Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly  
1 5 10 15  
Gly Val Leu Glu Ala Ser  
20

<210> 58  
<211> 18  
<212> PRT  
<213> Homo sapiens

<400> 58  
Leu Pro Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly Val  
1 5 10 15  
Leu Glu

<210> 59  
<211> 14  
<212> PRT  
<213> Homo sapiens

<400> 59  
Trp Ala Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly Gly Val  
1 5 10

<210> 60  
<211> 21  
<212> PRT  
<213> Homo sapiens

<400> 60  
Ala Ser Gly Leu Glu Thr Asp Ser Leu Gly Gly Val Leu Glu Ala Ser  
1 5 10 15  
Gly Tyr Ser Thr Glu  
20

<210> 61  
<211> 10  
<212> PRT  
<213> Homo sapiens

<400> 61  
 Ser Gly Leu Glu Thr Leu Asp Ser Leu Gly  
 1 5 10

<210> 62  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 62  
 Thr Leu Asp Ser Leu Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr  
 1 5 10 15

Glu Val Val Ala Leu Ser  
 20

<210> 63  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 63  
 Gly Gly Val Leu Glu Ala Ser Gly Tyr Ser Thr Glu Val Val Ala Leu  
 1 5 10 15

Ser Arg Gly Gln Gly Ser  
 20

<210> 64  
 <211> 22  
 <212> PRT  
 <213> Mus musculus

<400> 64  
 Glu Asn Leu Arg Asp Leu Leu His Leu Leu Ala Phe Ser Lys Ser Cys  
 1 5 10 15

Ser Leu Pro Gln Thr Ser  
 20

<210> 65  
 <211> 22  
 <212> PRT  
 <213> Mus musculus

<400> 65  
 Leu Leu His Leu Leu Ala Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr  
 1 5 10 15

Ser Gly Leu Gln Lys Pro  
 20

<210> 66  
 <211> 22  
 <212> PRT  
 <213> Mus musculus

<400> 66  
 Ala Phe Ser Lys Ser Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys  
 1 5 10 15

Pro Glu Ser Leu Asp Gly  
 20

<210> 67  
<211> 22  
<212> PRT  
<213> Mus musculus

<400> 67  
Cys Ser Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp  
1 5 10 15  
Gly Val Leu Glu Ala Ser  
20

<210> 68  
<211> 18  
<212> PRT  
<213> Mus musculus

<400> 68  
Leu Pro Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp Gly Val  
1 5 10 15  
Leu Glu

<210> 69  
<211> 14  
<212> PRT  
<213> Mus musculus

<400> 69  
Gln Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp Gly Val  
1 5 10

<210> 70  
<211> 22  
<212> PRT  
<213> Mus musculus

<400> 70  
Thr Ser Gly Leu Gln Lys Pro Glu Ser Leu Asp Gly Val Leu Glu Ala  
1 5 10 15  
Ser Leu Tyr Ser Thr Glu  
20

<210> 71  
<211> 10  
<212> PRT  
<213> Mus musculus

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Glu Val Val Ala Leu Ser  
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 Ser Arg Leu Gln Gly Ser  
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<210> 77  
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